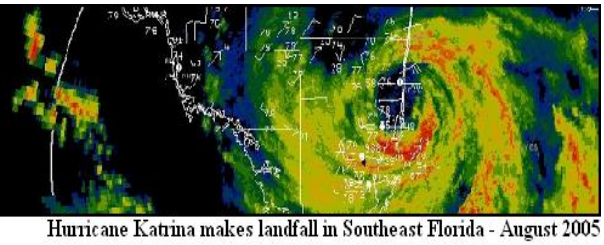
Tropical Winds

The Official Newsletter of WFO Miami



Hurricane Katrina makes landfall in Southeast Florida - August 2005

Issue 4 – SPRING 2011

Happy Birthday to us! **In June 2011, the National Weather Service in Miami will celebrate its Centennial of service to the people of South Florida. The first Weather Bureau office in South Florida was established at Jupiter Inlet in 1888 as part of the Signal Service. The town of Miami was incorporated in 1895, and the Weather Bureau office was moved from Jupiter to the rapidly growing town in 1911. A series of hurricanes with disastrous effects in the 1920s and 1930s finally resulted in the assignment of hurricane forecasters to Miami and several other field offices in 1935. By 1943, the Miami office was the 'national' hurricane center, a name made official in 1966. In 1984, administrative changes resulted in the separation of the National Hurricane Center (NHC), the statewide Miami Weather Service Forecast Office (WSFO), and the tropical cyclone research effort. In 1999, Weather Forecast Offices (WFOs) were assigned county warning areas based on Doppler radar coverage and the statewide Miami WSFO became the South Florida Weather Forecast Office. In this spring issue of the "Tropical Winds" we will take a look at how we plan on celebrating this occasion in the outreach section, and for more about our office and its history click here.**

In This Issue…

Weather Review and Outlook

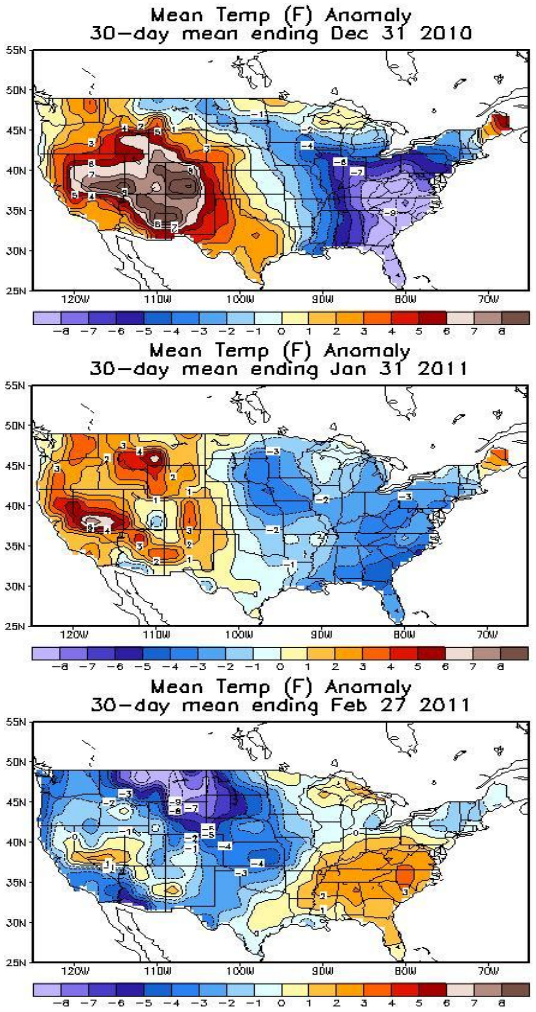
An alligator crawls through ashes after the Deep Fire near Alligator Alley-April 2009

An Extreme finish to 2010

By Evelyn Rivera

Extreme, that is the word that best describes the weather across South Florida during 2010. From a cool and wet beginning, to the warmest summer and coldest December on record, South Florida was characterized by drastic weather changes all year long.

This cold weather pattern is mainly associated to the interaction of two oscillations across the northern hemisphere: the North Atlantic Oscillation (NAO) and the Arctic Oscillation (AO). These oscillations were strongly negative during December 2010, which allowed for an upper level low pressure to persist across eastern portions of the continental United States. This therefore forced the jet stream southward, allowing for arctic air masses to move south into South Florida, modifying the temperatures significantly.



Temperature anomalies for the winter months. Notice that temperatures were well below normal in December and a little above normal in February.

Multiple strong Arctic cold fronts were capable of maintaining enough energy to sweep across South Florida, changing the temperature dramatically from one day to the other across the whole area. All of South Florida's primary climate sites showed an average monthly temperature in December of approximately 10 degrees below normal values. Also, various winter records were broken at some weather stations. For example, Palm Beach International Airport registered low temperatures below 40 degrees on six days, breaking the previous monthly record of five days from 1962. Similarly, the Naples Regional Airport had eight mornings with low temperatures below 40 degrees, breaking the record of seven days from 1981. Secondary stations like Miami Beach and Moore Haven also showed cooler-than-normal temperatures for this period, although the records for these sites are not as extensive as for the primary climate sites. Overall, the temperatures remained below normal values almost every day across the CWA, making December 2010 one of the coldest since the early to mid 1980's.

A rare frosty morning at WFO Miami – picture by Dan Gregoria

A very interesting fact to consider is that, despite the record hot summer, the South Florida's yearly average temperature for 2010 was one degree below normal. This makes 2010 the

coolest year since the early 1980's.

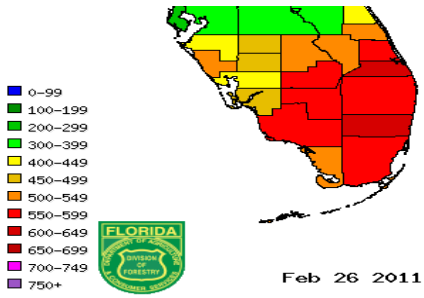
Although various fronts continued to move across South Florida during January 2011, this month was not as cold as December 2010, with monthly average temperatures approximately one degree below normal for all the primary climate sites. In February temperatures were above normal across the area with below normal rainfall. To review a more in-depth look at the past year and past couple of months click on the following links.

2010 **January 2011** **February 2011**

Drought

By Barry Baxter

and Andrew Tingler

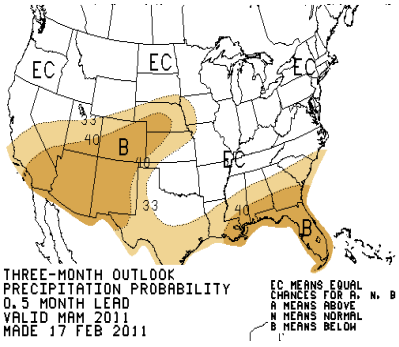


The Keetch-Byram Drought Index indicates very low soil moisture in South Florida and a high potential for wildfire growth.

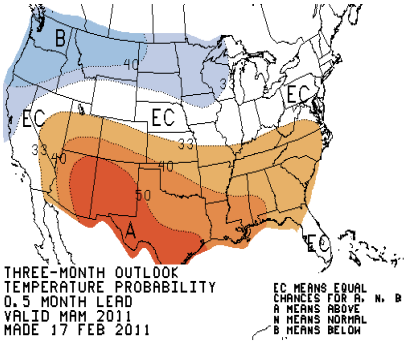
High pressure remained in control for much of February keeping conditions warm and mostly dry. Rainfall across South Florida during the month occurred mostly on the 10th through the 12th and again on the 17th as a pair of cold fronts worked through, but these amounts were still below normal. Since the dry season began most of South Florida has only received 30 to 50% of the normal rainfall for the 5 month period. For a full report on the ongoing drought click here.

Spring Outlook

By Andrew Tingler

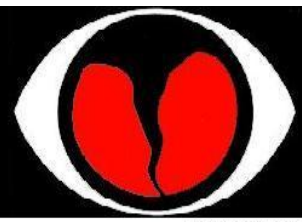


Rainfall across South Florida is expected to remain below normal for the spring of 2011 as the La Ninã we are currently in continues. The Climate Prediction Center indicates that while below normal rainfall is



expected temperatures from the period of March through May are expected to be near normal. The average high for the typical spring day is in the low to mid 80s while rainfall normally averages around 10 inches for the entire 3 month period. Spring is also a time of year that can be windy providing the ideal set up for rip currents along the beaches and the rapid spread of wildfires across the mainland. For more information on wildfires and rip currents click here.

Severe Weather Climatology



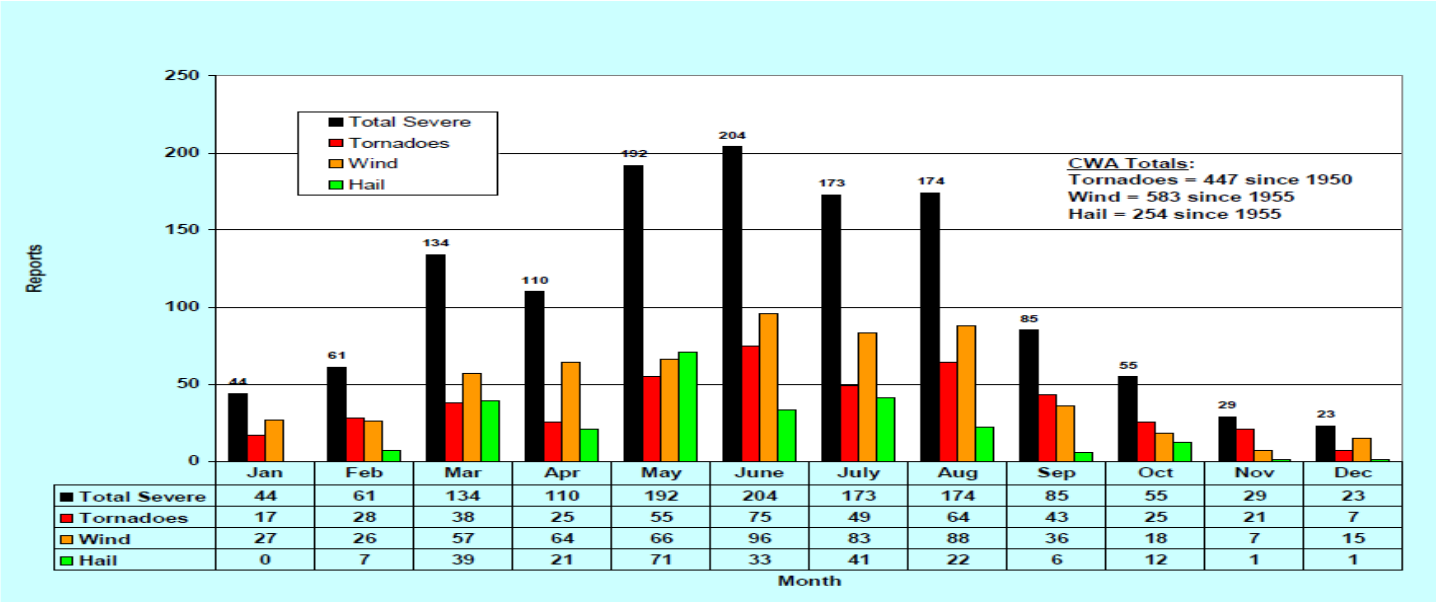
http://www.weather.gov/skywarn/

By Dan Gregoria

The median date of the end of the South Florida dry season is May 20th. However, since 1956, the rainy season has started as early as April 16th and as late as June 3rd. As winter moves into spring, surface temperatures and humidity levels steadily increase, eventually enough so to trigger the onset of the rainy season as formidable sea breezes develop providing convergence in a steamy, unstable airmass, which results in thunderstorm development.

The rainy season is characterized by the development of afternoon thunderstorms on a daily basis. The onset of the rainy season typically is sudden and sometimes fierce. In fact, often the strongest thunderstorms occur at the beginning of the rainy season, due to colder air aloft present as compared to later in the season, which leads to higher instability.

A severe weather climatology was conducted for the NWS Miami County Warning Area which categorized on a daily, monthly, and annual basis the severe weather reports received between 1950-2004. Severe weather is defined by the National Weather Service as winds of 58 mph or greater, hail to 1 inch or greater (changed from ¾ inch last year), or a tornado. The below figure shows that severe weather sharply increases in May, peaking in June and declining to low levels by September as mid level temperatures warm throughout the rainy season. Recall that the median date of the rainy season is May 20th. So it's impressive that May ranks second in total severe events given that often the first half of the month remains inactive.



	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Total Severe	44	61	134	110	192	204	173	174	85	55	29	23
Tornadoes	17	28	38	25	55	75	49	64	43	25	21	7
Wind	27	26	57	64	66	96	83	88	36	18	7	15
Hail	0	7	39	21	71	33	41	22	6	12	1	1

For a full look at the severe weather climatology for the NWS Miami County Warning Area, please click here.

Jupiter Lighthouse - November 2010 - Andrew Tingler

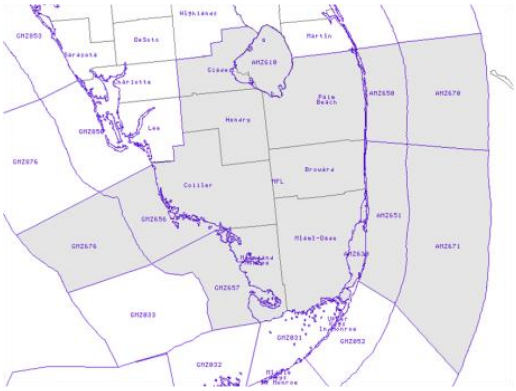
By Robert Molleda, WCM

WFO Miami Outreach Heats up this Spring

The primary mission of the National Weather Service is to issue forecasts and warnings for the protection of life and property. A key component of this mission involves community preparedness and outreach.

WFO Miami is proud to serve the South Florida community by participating in community events throughout the year. Most of these events are scheduled during the spring and early summer, right before the beginning of hurricane season. This spring, WFO Miami's outreach schedule is packed with big events which we hope everyone will take part in.

- In late March and early April, WFO Miami will participate in the Miami-Dade County Fair and Expo by staffing a NOAA/NWS display with brochures, posters and videos. The fair draws hundreds of thousands of visitors every year, many of these stopping or passing by the NOAA/NWS display.



The Miami – South Florida Weather Forecast Office's area of responsibility includes the counties of Glades, Hendry, Collier, Palm Beach, Broward, and Miami-Dade and also mainland sections of Monroe and the surrounding coastal waters including Lake Okeechobee and Biscayne Bay. It is home to around 6 million residents.

- On Saturday, April 16th, WFO Miami is proud to commemorate the 100th anniversary of the National Weather Service in Miami by hosting an Open House from 10 AM to 2 PM. The Open House will feature tours of the WFO and National Hurricane Center as well as static displays from our sister NOAA agencies, FIU and local Emergency Management agencies.

- On Friday, May 6th, the yearly NOAA Hurricane Awareness Tour, featuring the NOAA P-3 Hurricane Hunter aircraft, will stop at Fort Lauderdale Executive Airport (FXE). WFO Miami, Broward County, and the City of Fort Lauderdale will host the event. Tours of the P-3 aircraft will be provided to select Broward County school children, as well as public, VIP and media tours. NWS/National Hurricane Center, NOAA and local officials will be on hand to give presentations and staff interactive displays.

- WFO Miami and NHC will co-host an interactive display at the Florida Governor's Hurricane Conference from May 16-20. The conference is attended by thousands of Emergency Managers and media from all across Florida and is a yearly highlight on our outreach calendar.

In addition to these big events, our office does numerous school Career Day, civic and business group weather awareness and safety presentations. If you would like further information on WFO Miami's outreach program, and/or if you would like to request one of our meteorologists to be a speaker/participant at your event, please contact Robert Molleda, Warning Coordination Meteorologist, at 305-229-4522, Ext 223.

Hope to see you at one of our outreach events soon!

Changes at the WFO

Morning at Hollywood Beach - August 2010 - Chuck Caracozza

By Andrew Tingler

Guy Rader

Guy retired after nearly 37 years of government service. He started his career in the Air Force and was stationed at bases in North Carolina, Cape Canaveral, FL, and in Kentucky. Guy left the Air Force in 1983 and went on to peruse a career in the National Weather Service. He served at offices in Nebraska, Maryland, and North Carolina before finally transferring to the CWSU in Miami in 1991. In '93 he joined the NWS Miami team. Thank you for your service Guy, and good luck on your future endeavors!

Mike Bettwy

Congratulations to Mike who was selected to fill in the recently vacated lead forecaster position here at WFO Miami that was left empty late last year by Dan Dixon. Mike arrived at WFO Miami in 2010 and prior to here he served at offices in Eureka, CA and Duluth, MN.

Katherine Andolina

Kat was selected as the new Electronic System Analyst (ESA) and she arrived in early February to fill in behind Phil Judd who retired late last year. Prior to WFO Miami she served at WFOs Buffalo, NY and Jacksonville, FL. Welcome back to Florida Kat!

David Ross

Dave was selected to fill the Hydro-meteorological Technician position behind Bob Ebaugh. Dave will be arriving in March from WFO Key West, FL where he has been since 2007. Congratulations Dave and welcome to Miami!

Butterfly World in Coconut Creek - 2008 - Andrew Tingler

Editor-in-Chief… *Andrew Tingler, Forecaster*

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